U.S. DEPARTMENT OF STATE
Bureau of Oceans, Environment and Science

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FACT SHEET

Asia-Pacific Partnership on Clean Development and Climate

Aluminum Task Force
Summary of Action Plan and Projects

The Asia-Pacific Partnership on Clean Development and Climate is a unique public-private initiative among government and private sector partners from Australia, China, India, Japan, the Republic of Korea, and the United States. In remarks delivered to experts representing all Partner nations gathered at the American Electric Power facility in Columbus, Ohio, Under Secretary of State for Democracy and Global Affairs Paula Dobriansky today announced that the Partnership has begun a new implementation phase with the start of a series of multifaceted programs designed to promote cleaner, cost-effective energy technologies and practices among the Partner nations. The Partnership is identifying policies and deploying technologies that reduce greenhouse gas emissions, promote healthier air quality, advance sustained economic growth, and reduce poverty. It is now embarking on implementing voluntary practical measures to create new investment opportunities, build local capacity, and improve economic and energy security. The Partnership involves countries that account for about half of the world's population and more than half of the world's economy and energy use.

Summary of Aluminum Task Force Action Plan

Partner countries account for 37 percent of the world's aluminum production. The aluminum industry is one of the world's fastest growing global sectors, especially among developing countries. Through the Partnership, countries are moving toward effective and efficient methods of controlling harmful emissions and promoting sustainable practices in the aluminum industry by introducing new technology, market transformation and the sharing of best practices.

The long-term goal of the Aluminum Task Force is to reduce negative impact on the environment, advance efficiency, performance, and reduce energy and operational costs. This will be done through the application of best practice use of existing equipment, increasing the uptake of best available and affordable technology, and developing and deploying new technologies.

Sharing Technology and Best Practices

Greenhouse Gas Emissions: Partner countries are working to reduce emissions of perfluorocarbons (PFCs), which are extremely potent, long-lived greenhouse gases. The United States is making progress in reducing PFC emission intensity through the application of currently-available, cost-effective technologies and practices that are applicable to all smelters. The United States will share its expertise with Partners and work to adopt standard facility-specific measurements, conduct benchmark assessments, and identify potential technical upgrades for the majority of the Aluminum Task Force projects. The anticipated outcome is reduced PFC emissions in an efficient and effective manner. Training workshops and emissions measurement projects are under development for 2007.

Environmental Impacts: The Task Force is working to decrease emissions of fluorides, (substances that result from smelting that can have serious environmental impacts on local flora and fauna), by providing operators with information on their emissions performance and identifying practical reduction mechanisms. The Task Force also plans to develop technically and economically sound uses for bauxite residue, the environmentally problematic residue from alumina processing.

Recycling: The Aluminum Task Force will promote aluminum recycling, which uses only 5 percent of the energy required for primary metal production and avoids PFC emissions and other environmental pollutants associated with alumina processing and aluminum production by developing baseline recycling rates and an annual reporting mechanism to monitor progress. The result will be a database of best practices for collection and recycling operations, including environmental and safety practices to enhance sustainable recycling operations.

Facilitating Environmentally Friendly Investments in Aluminum Technology

Leaders of the aluminum associations of the six Partner countries agreed to a Memorandum of Understanding (MOU) to reduce PFC emissions from aluminum production in May 2006. The signing is a strong signal that the Partnership's aluminum associations will work together to leverage funding to further the Task Force's goals.

Partner countries Japan and the Republic of Korea do not produce primary aluminum or bauxite, and there is virtually no bauxite production in the United States.

Summary of Aluminum Task Force Projects

Project 1. **Aluminum Measuring and Benchmarking**

This project is intended to develop a procedure and indices for benchmarking and measuring aluminum sustainability and provide Partners with baseline knowledge to facilitate data collection. The new indices, updated by participating Partners, Australia,

China, India, Japan and the United States, are to be used in concert with other project plans that support PFC emissions management, fluoride emissions management and recycling, providing an essential foundation for future projects. Progress in emission management, as defined in the industry MOU, will be monitored on a three-year basis.

Project 2. **Management of PFC Emissions**

Management of emissions of PFCs is a proposed flagship project for the Aluminum Task Force. The project enables all primary production facilities in each of the Partnership countries to identify and implement cost-effective, technically-feasible opportunities to optimize anode effects in electrolytic cells, the primary source of PFCs during aluminum production. This is accomplished by providing relevant tools for developing PFC inventories and reporting regimes in order to facilitate the development and adoption of smelter-specific PFC emission reduction strategies. This project has significant potential to reduce current and future greenhouse gas emissions from aluminum smelting.

Project 3. **Management of Bauxite Residue (Red Mud)**

Worldwide, aluminum is generated from alumina, which is produced from an ore called bauxite. Approximately 1.5 to 2 tons of bauxite residue (also known as red mud), an environmentally problematic substance, are generated per ton of alumina produced. While a number of potential uses have been suggested for the residue, currently there are no economically viable and environmentally acceptable solutions for effective use of the large volume of residue generated. In this project, Australia, China and India focus on developing technically and economically sound options for bauxite residue in various end uses, including applications in the steel and cement industries, physically and chemically stabilizing the residue, and minimizing both the amount of land and the time necessary for residue storage.

Project 4. **High Silica Bauxite Processing**

Increased worldwide demand for alumina, currently at more than 160 million tons per year, is expected to lead to a gradual global decline of high-grade bauxite, the ore from which alumina is generally produced. Due to higher demand and declining supply, there is a need to develop new environmentally friendly and economically viable processes and technologies for alumina production from lower-grade bauxite, which is high in silica minerals that need to be removed. In this project Australia, China and India are working together to improve processing of high silica bauxite, including increasing the amount of alumina recovered by reprocessing alumina recovered by reprocessing the bauxite residue, recovering and subsequently reusing chemicals required for processing and producing alternative products to defray the environmental impact and costs of the intense chemicals currently utilized.

Project 5. **Fluoride Emissions Management**

Fluoride emissions (as gases and particulates) result from the aluminum smelting process, which requires fluoride. These emissions are an important environmental concern for the smelting sector since, depending on local conditions; they can have serious impacts on local flora and fauna. In this project, Australia, China, and the United States will work to manage fluoride emissions in order to minimize or eliminate environmental impacts by providing smelters with information on their operation's fluoride emissions performance as it relates to the global average. The project also works toward implementing of best practices and employing technologies which can reduce fluoride emissions across primary aluminum smelters in all of the Partner countries.

Project 6. **Aluminum Recycling**

Aluminum recycling uses only 5 percent of the energy required for primary metal production and avoids emissions of PFCs and other harmful pollutants associated with alumina processing and aluminum production. In the first step of this project, Australia, China, India, and the United States will track baseline aluminum recycling rates, focusing on aluminum beverage cans, and develop an annual reporting mechanism to monitor progress. The project also plans to develop a database of best practices for collection and recycling operations, including environmental and safety practices to enhance sustainable recycling operations.

Project 7. **Linkages to Technology Providers**

The implementation of activities under the Aluminum Task Force relies on the application of new and existing technology to enhance both environmental and commercial performance. Australia, China, India and the United States plan to create a publicly available register of technology providers in order to ease access to necessary resources for implementing change. It will also enable participants to link to industry and environmental experts and foster a competitive market environment that cultivates more environmentally friendly activities. The first phase is to generate an internet-based register for Partner country national industry associations and governments involved in the Task Force.